

Application No: 10/ 646, 914

Amendment Date: 06/22/ 2004

Amendment to the Specification:

No new matter is included in this amendment.

Please cancel previous amendment to the specifications submitted on 04/03/2004 in its entirety.

Please make following changes in the BACKGROUND OF INVENTION:

BACKGROUND OF INVENTION

Please make following changes in the BRIEF DESCRIPTION OF THE DRAWINGS:

[[FIG. 1 is a schematic drawing of the muscle toner, comprising; headband and stretching device]]

FIG. 1. Muscle Toner:

FIG. 1 A, headband;

FIG. 1B, stretching device.

[[FIG. 2 is a schematic drawing of the strap, a component of the headband, FIG. 1]]

[[FIG. 3 is a schematic drawing of the male and female adhering materials, the components of the strap, FIG. 4, a component of the headband, FIG. 1]]

[[FIG. 4 is a schematic drawing showing the female adhering material placed at the tip of the inner side of the strap, FIG. 2, a component of the headband, FIG. 1]]

[[FIG. 5 is a schematic drawing showing the male adhering material placed at the end of the outer side of the strap, FIG. 2, a component of the headband, FIG. 1]]

[[FIG. 6 is a schematic drawing of connecting strip, a component of the headband, FIGS. 8, FIG. 1]]

[[FIG. 7 is a schematic drawing of connecting ring, a component of the headband, FIG. 8, FIG. 1]]

[[FIG. 8 is a schematic drawing showing the outer side of the strap, FIG. 2, with male adhering material, FIG. 5, connecting strip, FIG. 6, and connecting ring, FIG. 7, the components of the headband, FIG. 1]]

FIG. 2. Components of headband, FIG.1A:

FIG. 2 A, headband strap;

FIG. 2 B, snap hook;

FIG. 2 C, male & female adhering material.

[[FIG. 9 is a schematic drawing of the stretching device, a component of the muscle toner, FIG 1.]]

[[FIG. 10 is a schematic drawing of the elastic tube, a component of the stretching device, [[FIG. 9]]]

[[FIG. 11 is a schematic drawing of the handle, a component of the stretching device, FIG. 9]]

[[FIG. 12 is a schematic drawing of the padding over the handle, a component of the stretching device, FIG. 9]]

[[FIG. 13 is a schematic drawing of the length adjusting buckle, a component of the stretching device, FIG. 9]]

[[FIG. 14 is a schematic drawing of the elastic tube, FIG. 10, passing through the length adjusting buckle, FIG. 13, and through the lumen of the handle, FIGS. 11, 12, the components of the stretching device, FIG. 9]]

FIG. 3. Components of stretching device, FIG. 1B:

FIG. 3 A, elastic tube;

FIG. 3 B handles;

FIG. 3C, adjusting buckles.

[[FIG. 15 is a schematic drawing showing the rear view of the stretched arms along the shoulders]]

[[FIG. 16 is a schematic drawing showing the side view of the stretched arms along the shoulders]]

FIG: 4. Depicts exercise technique.

[[FIG. 17 is a schematic drawing showing the arms position, pulling the head backward and stretching the neck]]

FIG: 5. Depicts exercise technique.

Figs. 18-19 (cancelled).

FIGs: 6, 7, 8, 9 Depict a series of exercise techniques.

Please make following changes in:

DETAILED DESCRIPTION OF THE INVENTION AND BEST MODE:

[[The muscle toner of the present invention includes headband connected to stretching device FIG.1.]] Muscle Toner, FIG. 1, is a progressive resistance exercise device, which has a headband and a stretching device that is connected to the headband.

[[The structure of the headband is shown in more detail in FIGS. 2, 3, 4, 5, 6, 7, and 8.]]

FIG. 2 illustrates the components of the headband. The headband strap, FIG. 2A, is non

stretchable flexible material with attachable flat male /female adhering materials on its ends, FIG. 2C, and they are long enough to provide ample overlapping for a tight fit on smaller head size and to secure retention on larger heads. A snap hook, FIG. 2B, is sewn on the mid segment and on the outer surface of headband strap, to hold elastic tube.

[[FIGS. 9, 10, 11, 12, 13, and 14 show the details of the structure of the stretching device.]] Stretching device, FIG. 3, has an elastic tube, FIG. 3A, fastened slidably through adjusting buckles, FIG. 3C, at each end, passes freely through a handle, FIG. 3B, at each side and is tied to adjacent adjusting buckle to the same adjacent adjusting. The length and resistance of the elastic tube, FIG. 3A, can be adjusted by sliding buckles, FIG. 3C, along the length of the elastic tube; as the length is shortened its resistance increases and vice versa. Adjustability of headband size, the length of elastic tube, and its resistance makes the Muscle Toner a “one size for all” progressive resistance exercising device for upper body and neck muscles.

[[The headband comprises a strap FIG. 2. The adhering materials, FIG. 3, the female part is placed at the tip of the inner side, FIG. 4, and the male part is placed at the end of the outer side of the strap, FIG. 5. The adhering materials provide the grip action for tightening and holding the headband. A connecting strip, FIG. 6, from a suitable material is swan at its sides to the center part of the outer side of the strap, FIG. 2, leaving the middle section of the connecting strip detached FIG. 8. A connecting ring, FIG. 7, loops under the connecting strip, FIG. 8, to hold the elastic tube of the stretching device, FIG. 1.]]

[[The stretching device, FIG. 9, is composed of an elastic tube, FIG. 10, two hollow and cylindrical handles, FIG. 11, covered by padding material, FIG. 12, two length adjusting buckle, FIG. 13. The elastic tube, FIG. 10, is fixed or tied on the adjusting buckle, runs through the lumen of the handle, passes over and under the length adjusting buckle, FIG. 14, inserted through the connecting ring of the headband, FIG. 1, and continues to the other handle and is tied to the length adjusting buckle at the end, FIG. 9.]]

[[The user can adjust the length of the elastic tube, FIG. 10, by forward and backward movement of the length adjusting buckle, FIG. 13, along the elastic tube. The length adjustment helps to size it up to the users arm span and to reduce or increase the resistance of the elastic tube for stretching.]]

[[Basically, when the arms are stretched along the shoulders from the back of the body, FIG. 15, FIG. 16, biceps and triceps muscles in the arms, pectoralis muscle over the chest, the trapezius and rhomboid muscles in upper back which extend toward the back of the shoulders and back of the neck, along with the muscles in the front of the neck are stretched together. Deltoids are stretched when the arms are moved down or back and forth.]]

FIG. 4 demonstrates the basic exercise method with Muscle Toner, FIG. 1, The headband, FIG. 2, is tightened around the head. Stretching device FIG. 3, is connected to the headband through the snap hook, FIG. 2B, in the manner shown in FIG. 1. By pulling the stretching device in the back slightly retracts the head and that creates tension on the neck muscles.

Muscle Toner connects the upper body muscles to neck muscles. Therefore, exercising with Muscle Toner allows recruiting upper body and neck muscles simultaneously. Stretching the arms along the shoulders primarily activates arms, shoulders, upper chest, and upper back muscles, and creates secondary effect on the neck muscles. In addition, any movement of the head in different directions, under constant resistance of the elastic tube will increase loading on the neck muscles.

By moving the arms downward in the back, FIG. 5, the head liens further backward. This increases contraction in Trapezius and Rhomboid muscles in the upper back. Contraction of Trapezius muscles, which run from the back of shoulders across the neck and back of the head, retracts and depresses scapulas (shoulder blades). This exercise reverses the altered curvature in the upper back and cervical spine, resulting from prolonged bending of upper back and the head, and corrects lordotic posture or anterior weight bearing position of the head. It removes tension from Trapezius and Rhomboid muscles, which would otherwise triggers tension headache.

[[Stretching of all muscle groups in the neck and shoulder have secondary pulling effect on deeper structures in the neck area and head, and facial muscles, thereby reducing their tension. Similarly, stretching the arms horizontally along the shoulders, FIGS. 15, and 16, has pulling effect on the rib muscles, which would expand the lungs, increasing their volume. Therefore, , is the key factor to alleviate both the neck/shoulder pain and tension headache, induced by stress.]]

FIG. 6, Shows that arms are stretched and pushed all the way down in the back. That pulls the head further backward, fully extends the neck and recruits following muscle groups in the anterior, posterior, and lateral regions:

- ✓ In the anterior region infrahyoid muscle groups; (Thyrohyoid, Omohyoid, Sternohyoid), as well as supra- hyoid muscles; (Digastric, Mylo-hyoid, and Genio- hyoid), are fully stretched.
- ✓ In the posterior region it retracts Trapezius, Scalenus, and Splenius groups.
- ✓ In the lateral region the Sterno-cleido- mastoid muscles are stretched.

[[Stretching of all muscle groups in the neck and shoulder have secondary pulling effect on deeper structures in the neck area and head, and facial muscles, thereby reducing their tension. Similarly, stretching the arms horizontally along the shoulders, FIGS. 15, and 16, has pulling effect on the rib muscles, which would expand the lungs, increasing their volume. Therefore, , is the key factor to alleviate both the neck/shoulder pain and tension headache, induced by stress.]]

[[Needless to emphasize that stretch exercise effectively strengthens the muscles and prevents the onset, or slows down the progress, of muscle degeneration/atrophy, which is prevalent among the elderly. Muscle weakness is underlying factor for snoring habit in older age.]]

[[By stretching the arms toward the back and down the head will be pulled back, stretching primarily the muscle groups in the front part of the neck and under the chin, FIG. 17.]] The stretch action generated by this exercise FIG. 6, will strengthen and restore the physiological tonus in all the muscle groups in the area including the soft palate muscles. It has been shown that the increase or the reduction of the muscle tone of the soft palate muscles; tensor veli palatinin, pterygoid, genioglossus, geniohyiod, and sternohyoid, are the main cause of snoring. US patent: 6,573,241 and 6,587,725. Muscle toner, by its stretch mechanism restores the physiological function of these muscle groups, thereby eliminating the snoring problem.

FIG. 7 illustrates flexion of the head which extends posterior neck muscles called extensors, namely; trapezius, splenius capitis, semispinalis capitis, and suboccipitalis muscle groups. Combination of extension and flexion exercises shown in FIG. 6, & FIG. 7 restores anterior-posterior range of motion of the neck.

FIG. 8, Holding arms stretched out at the shoulder level and moving the head to the sides further stretches and strengthen to rotator muscles of the neck namely; sterno- cleido- mastoid muscles, Spelenius capititis, Levator scapula, and Suboccipitals. Rotational range of motion of the neck will be limited by any sustained injury on any of rotator muscles. This exercise restores rotational range of motion of the neck.

In lateral flexion, FIG. 9, the head is pulled to the side bringing the ear to the shoulder. In this exercise we are restoring lateral range of motion of the neck. Scalenes muscle groups are the lateral flexors. A tight scalene group will pull the head to the same side. In order to use Muscle Toner, FIG. 1, for lateral flexion rotate the headband, FIG. 2, to position the snap hook, FIG. 2B, at the middle of the side of the head. Grab both handles of bilateral stretching tube, FIG. 3, with one had and stretch the arm at 45 degree angle to the body that pulls the head to that side. Move the head to upright position and pull it again. This exercise should be repeated with the other hand to flex the head in the opposite side.

Although the invention has been described above with a certain degree of particularity with respect to the components and arrangements thereof, it should be understood that this disclosure has been made by way of example only. Consequently, changes in the detail of the construction and in the arrangement of the elements will be apparent to those familiar with the art, and may be made without departing from the meaning, scope, or intent of the inventions as claimed below: